

# AusCue

## *Cardiac Auscultation Simulator for Medical Training*

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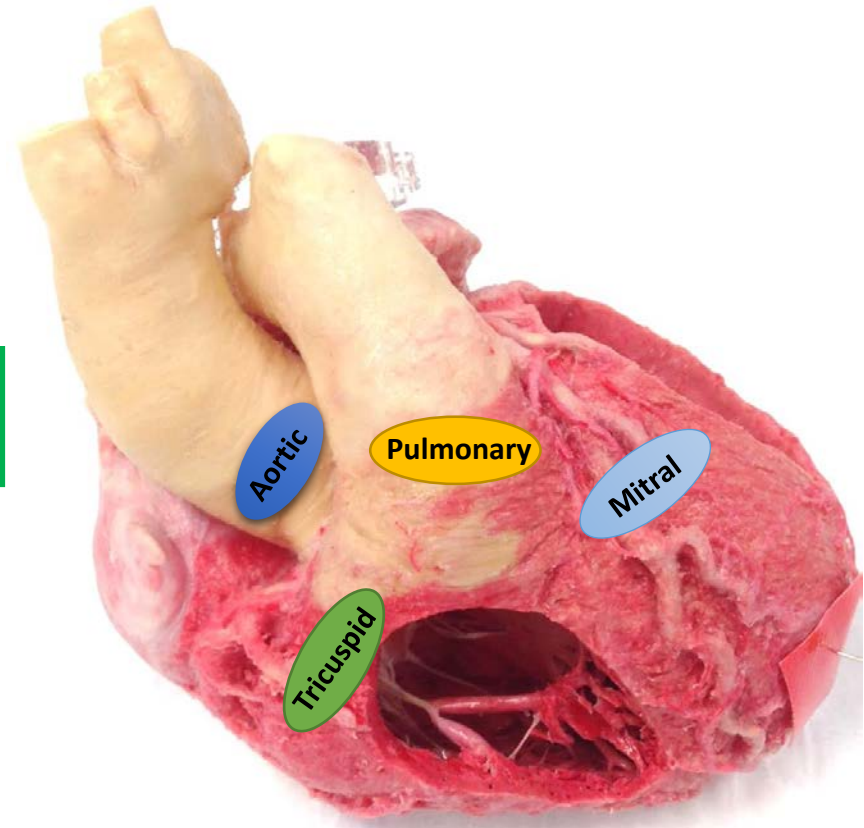
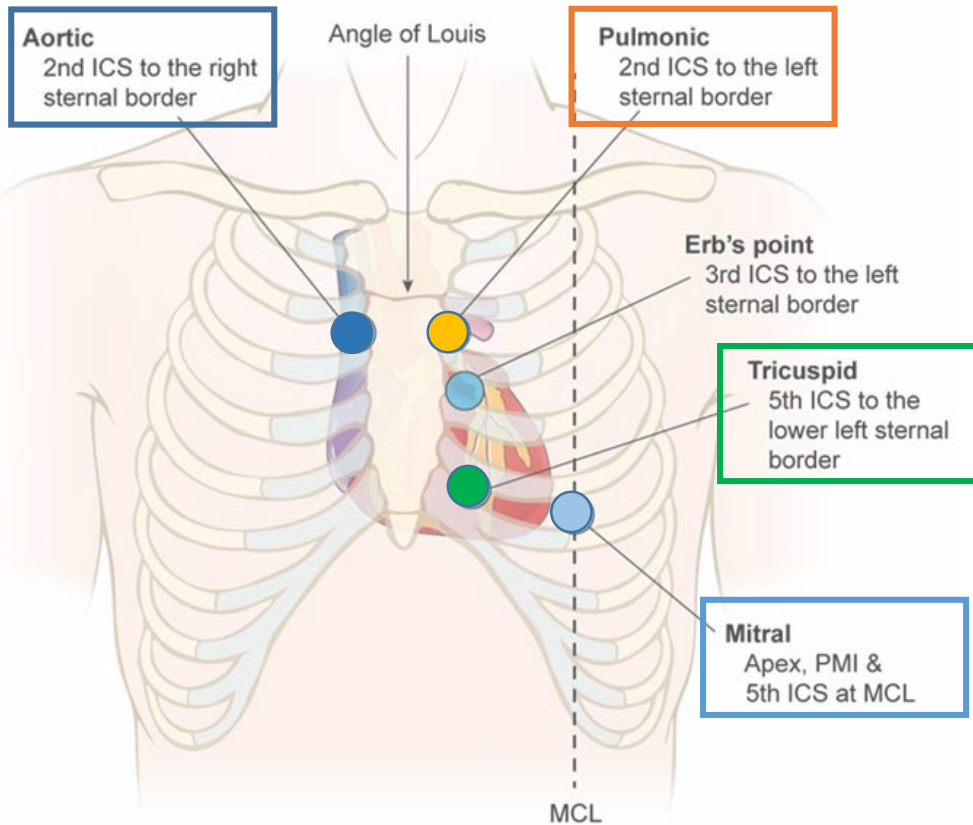
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# Cardiac Auscultation



Action of listening to sounds from the heart, typically with a stethoscope, as a part of medical diagnosis for a various types of heart diseases such as valvular heart disease or congenital heart disease

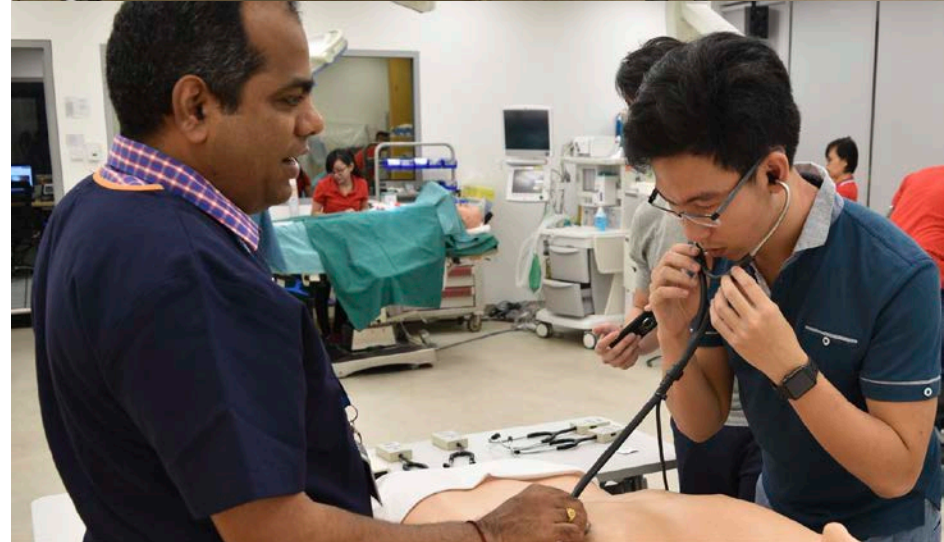
# Harvey Simulator

- Most common simulator used
- Shown consistent and positive benefits in many studies
- But, lack studies on the instructional design features for effective cardiac auscultation simulators (McKinney, et al. 2013)



# Understanding the gap

- Interviewed two academic scholars from Yong Loo Lin School of Medicine, National University of Singapore (NUSMed) and four undergraduate medical students for insights related Harvey medical stimulation
- Analysis with features that lead to effective learning by Issenberg et al (2005)



Features for effective learning (Issenberg et al., 2005)	Harvey® CPS	Gaps for improvement
<b>Feedback</b>		Dependent on instructor to provide feedback on auscultation areas and sounds
<b>Repetitive practice</b>		Limited access as simulator time is limited and setup requires training to operate simulator
<b>Multiple learning strategies</b>		Cumbersome for instructor centred format or small group discussion because everyone is listening to the electronic stethoscope
<b>Range of difficulty level</b>	10 patient cases	
<b>Clinical variation</b>	Covers 50 different heart conditions	
<b>Controlled environment</b>	Students can make, detect and correct errors without adverse consequences	
<b>Individualised learning</b>	Participate by auscultating	
<b>Defined outcomes</b>	Dependent on instructor and curriculum	
<b>Simulator validity</b>	Validated cases	
<b>Curricular integration</b>	Part of existing curriculum	

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*(Cardiac Auscultation Training Simulator)*

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- Text to guide students on the right auscultation areas
- Coloured indicator on the stethoscope to show correct or incorrect areas
- Easy to set up and portable for repetitive practice
- Heart sounds are played over a speaker to enable group discussions



# Acknowledgements

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